

REMARKS

Claims 1-19 are currently pending. Claim 1-4, 7-9 and 12-17 have been rejected. Claims 5, 6, 10, 11, 18 and 19 have been rejected. Claims 1, 7 and 14 have been amended.

Claim Rejections -35 USC § 101

Claims 1-3 and 5-6 were rejected under 35 U.S.C. § 101 because the claim invention is drawn to non-statutory subject matter. The examiner has stated that claim 1 does not recite either a useful, concrete or tangible result and is merely drawn to the manipulation of abstract ideas. The applicant has amended claim 1 to clarify the useful, concrete and tangible results which are recited in claim 1 as currently amended. Wherein solving the equations includes the creation of the level set, and the step of re-distancing is a transformative step that is a useful, concrete and tangible result. For at least this reason claim 1 is allowable at least under 35 U.S.C. § 101.

Claim Rejections -35 USC § 112

Claims 5-6, 10-11 and 18-19 were rejected under 35 USC § 112 due to being indefinite. The examiner rejected these claims for including the element “node,” which the examiner claims was not defined in the claims. The applicant has amended claims 1, 7 and 14 to specifically define nodes. Support for these amendments may be found at least in Figures 3-6 and on page 3, lines 18-21 and page 6, lines 24-26.

Claim Rejections -35 USC § 103

Claims 1-4, 7-9, 12 and 14-17 were rejected as being unpatentable over the applicant's admitted prior art (hereinafter AAPA) in view of David P. TREBOTICH et al., A Projection Method for Incompressible Viscous Flow on Moving Quadrilateral Grids, Journal of computation Physics, 166(2):191-217, 2001, (hereinafter Trebotich) and Igor TSUKANOV et al., A Meshfree Method for Incompressible Fluid Dynamics Problems, Spatial Automation Laboratory, Madison, WI, 2002 (hereinafter Tsukanov).

The examiner noted that neither Trebotich nor the AAPA teach the feature of “re-distancing the level set by performing selectively reduced bi-cubic

interpolation as recited in claims 1, 7 and 14.” The examiner expressed the opinion that Tsukanov does teach this feature. The applicant respectfully disagrees with this opinion.

The selectively reduced bi-cubic interpolation is based upon the bi-cubic function shown in equation 1. As described in the specification at least on page 9, lines 6-12, the bi-cubic interpolation is selectively reduced under certain circumstances. Although, using bicubic B-splines as basis functions as described in Tsukanov, page 17, last paragraph, lines 4-5. Tsukanov does not suggest or disclose selectively reducing the basis functions, nor does the prior art. For at least this reason claims 1, 7 and 14 are allowable over the cited art.

In view of the foregoing amendments and remarks, Applicants respectfully request favorable reconsideration of the present application.

Respectfully submitted,

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